NEARDATA

NEWSLETTER

SECURE ROLLING SOFTWARE UPDATES WITH SCONE

By Andre Miguel (SCONTAIN)

In the NEARDATA European project, data analytics applications require continuous software updates to deliver critical vulnerability patches and bug fixes, enhancing security and reliability. Even within trusted execution environments (TEEs) like Intel SGX/TDX, AMD SEV-SNP, ARM CCA, or NVIDIA TEEs, vulnerabilities can persist, making timely updates essential. However, integrating updates into confidential computing environments poses challenges, as updates must preserve confidentiality, integrity, and availability without compromising TEE isolation or exposing sensitive data.

TEEs rely on attestation to verify integrity, but software or firmware updates can invalidate prior attestations, requiring remote re-verification. This disrupts trust chains and, in distributed systems, demands coordinated re-attestation. For example, Intel SGX's DCAP requires post-

NEWSLETTER

update re-authentication, which can interrupt live workloads, create temporary trust gaps, or necessitate manual intervention. Achieving zero-downtime updates in TEEs is complex, involving patch deployment, attestation maintenance, hardware compatibility, key management, and trust preservation.

Scontain GmbH addresses these challenges with a secure, automated software update mechanism built on SCONE. Using a staged rollout approach, SCONE incrementally deploys updates while verifying TEE integrity at each step. Instead of patching or live-migrating, it replaces VMs, containers, and Kubernetes pods entirely, minimizing disruptions and maintaining trust.

This technology is central to NEARDATA's mission to build a secure, scalable, and trusted data infrastructure for Europe's data economy. By enabling real-time, privacypreserving data processing with up-to-date software, Scontain's solution drives innovation in sectors like healthcare and finance, where data security and compliance are critical.

INDUSTRY SHOWCASES IN 2025

SCONTAIN's secure rolling update technology was highlighted at several prestigious conferences in 2025, showcasing its impact on confidential computing

CONFIDENTIAL COMPUTING SUMMIT 2025

CONFIDENTIAL COMPUTING SUMMIT™ 2025

Held in San Francisco, the Confidential Computing Summit 2025 convened experts from Microsoft, Google Cloud, Intel, and academia to discuss secure AI deployment, post-quantum cryptography, and agentic workflows. With over 75 sessions, the event focused on real-time policy enforcement, enterprise readiness, and open standards for trust in the AI era. Scontain's presentation of its secure rolling update technology drew significant interest from researchers at Google and Microsoft.

NEARDATA

NEWSLETTER

HUAWEI GLOBAL SOFTWARE TECHNOLOGY SUMMIT 2025

Huawei's Global Software Technology Summit 2025 emphasized industrial intelligence, showcasing AI-driven transformations in healthcare and telecom. The summit highlighted four strategic pillars: deep tech integration, AI-oriented infrastructure, high-performance development tools, and talent cultivation. Scontain demonstrated its secure rolling update technology, underscoring its role in enabling secure, scalable data processing for these industries.

HUAWEI

Global Software Technology Summit

BIS INNOVATION SUMMIT 2025

2025 BIS
INNOVATION
SUMMIT ●BIS

The BIS Innovation Summit 2025, held in Basel, Switzerland, explored resilience in central banking amid rapid technological advancements. Themed "Future-proofing Central Banks," it featured panels, roundtables, and fireside chats on AI, quantum computing, RegTech, and talent transformation, attracting over 3,500 global participants. Christof Fetzer, Scontain's co-founder, joined a panel on confidential computing for financial services, discussing how Scontain's technology enables secure data processing and collaboration in central banking and financial markets.

🌐 https://neardata.eu/
🐦 @Neardata2023
⌨ https://github.com/neardata-eu